

gray surface. The vessels are filled with a firm, mostly red laminated clot, which is adherent to the vessel walls in places, but which can be detached and removed as a tree. The descending aorta is the seat of several thickened patches of sclerosis, from one to three centimetres in size. That vessel and the iliac arteries are free from clots. The heart contained fluid blood and no clots.

ACUTE APPENDICITIS; OPERATION; SEPTIC THROMBOSIS OF A BRANCH OF THE RIGHT PULMONARY ARTERY, FOLLOWED BY ABSCESS OR GANGRENE OF THE LUNG; DEATH.

DR. LE CONTE also reported the following case: A man, aged fifty-four years, was admitted to the Pennsylvania Hospital, September 15, 1903, who had been ill for five days with abdominal pain, vomiting, fever, constipation, the pain localizing itself in the right iliac region during the last forty-eight hours. No previous attack of this nature. On admission his temperature was  $102\frac{2}{6}^{\circ}$  F.; pulse, 120; respirations, 32. Abdomen prominent, rigid, and tender only in right iliac region, where an illy defined sausage-shaped mass could be made out on palpation.

The abdomen was opened through the right rectus muscle, exposing an appendix very large, much thickened, inflamed, red, and standing erect. Meso-appendix very thick and board-like. No perforation was visible in the appendix, but on one side there was a greenish spot. It contained pus and a faecal concretion the size of a chestnut. Intestines in the immediate neighborhood were in places of a gray-green color, like beginning gangrene. The appendix was removed, the surrounding abdominal cavity walled off from the green portions of the intestine, drainage inserted, and the abdominal wound partially closed. Bacterial cultures from the peritoneum showed bacillus lactis aërogenes. Reaction following the operation was good, and the convalescence seemed to be well established, when on September 25, ten days after the operation, he awakened from sleep in a condition of profound collapse. The weakness was extreme; pulse very feeble; breathing difficult and shallow; temperature one degree subnormal; sweating profuse. No pain. Later in the morning there was severe pain beneath the right scapula. No impairment of resonance; no friction sound or râles to be heard.

September 26. There was suppression of the breath sounds over the base of the right lung posteriorly. No impairment of resonance; no friction murmur. Temperature had risen to 103° F.; some cough; no expectoration.

September 27. Resonance impaired over right base, where the breath sounds were very feeble. Cough continues with some bright, blood-red expectoration. Leucocyte count, 16,000; pain shooting through lower part of right chest.

September 28. Physical signs over right base similar to those of a central pneumonia. Expectoration more free and still bright red. Pneumococcus and tubercle bacillus not found in sputum. Patient continued in this condition for about a week, and then a slow improvement set in, although the temperature never quite reached normal.

By the 19th of October a small, localized effusion was diagnosed over the right pleura. The sputum at this time was very copious, had lost its bloody characteristics, but was occasionally rusty. It was filled with pneumococci; breath a little offensive. Patient moderately septic with hectic temperature.

October 27. During a hard coughing spell a large quantity of foul-smelling, tenacious, yellowish material was brought up. An exploring needle was inserted into the chest and about a drachm of dark brown, thin fluid was evacuated, with a faecal odor. This fluid was loaded with streptococci and staphylococci, and with bacilli which were variously described as long and thin, short and stout, and square-ended.

October 28. Under local anæsthesia, induced by Schleich's fluid, an attempt was made to open the chest. The pleura was opened and no fluid encountered. The lung within felt hard and solid. This procedure was so painful and depressing to the patient that the operation was not persisted in. His condition at the time was profoundly septic, and it was not deemed advisable to give an anæsthetic. Owing to difficulty of respiration, he was constantly in a semirecumbent position, could not lie down.

November 1. He was again tapped and purulent fluid of a very foul odor withdrawn. He positively refused any further operative procedures, and it was not until November 5 that he consented. At this time, while in a semisitting position anæsthol was administered. After he became unconscious, it was found impossible to operate with the patient in this position, and it became nec-

essary to turn him on his left side. Just as the skin was incised there was a violent expulsive cough, and from the mouth and nostrils a quantity of foetid, greenish pus gushed out. In a second, respiration ceased and stimulation and artificial respiration failed to revive the patient. Evidently the lungs were flooded with pus by the rupture of the abscess, and he was drowned in his own secretions.

Post-mortem examination was refused.

Dr. Le Conte said that his reasons for believing this case to be one of septic embolus of a branch of the right pulmonary artery were the following:

Suddenness of onset with collapse; difficult respiration; feeble pulse; an absolute lack of physical signs at first, these developing in the following order, pain, impaired breath sounds, fever, bright bloody expectoration, impaired resonance; at first no râles and no friction murmurs. With the meso-appendix enormously thickened and inflamed at the time of operation, it is not hard to believe that a septic clot detached itself from one of these vessels and was swept into the lower branch of the right pulmonary artery.

DR. GEORGE ERETY SHOEMAKER regarded the class of cases reported by Dr. Le Conte of interest as explaining some postoperative deaths. Cases similar to the one which occurred soon after operation might be due to sudden heart failure. One peculiarity about cases of sudden death is that nearly all of them occur from a week to ten days after operation and in patients that are doing well; hence they come as a surprise. Such patients move about more than do those profoundly ill. Emboli are thus formed out of otherwise innocent local vein clots. They should teach the surgeon that it is unwise, even in simple cases of major operation, to allow the patient out of bed as early as the tenth day. Some surgeons even boast of their patients leaving the hospital on the tenth or even the fourth day; this adds to the risk. These remarks do not, of course, refer to Dr. Le Conte's cases. Dr. Shoemaker's experience with embolism is limited to one case which occurred after severe hæmorrhage due to ruptured extra-uterine pregnancy. The patient was a large woman, who had a fatty heart and had previously suffered from perinephritic abscess. Ectopic rupture occurred during the sixth week of gestation. After operation the pulse and temperature were normal at the ninth day, and the

patient was supposed to be in splendid condition. She died instantly, no doubt as the result of a clot in the pulmonary vessels, though no post-mortem was held. Most of the cases in which embolism occurs are simple in character, and for that reason the surgeon is apt to allow the patient early liberty. A similar variety of sudden death occurs after undue exertion during pneumonia.

DR. HENRY R. WHARTON mentioned a case in which he performed Schede's operation for varicose veins of the leg. The patient recovered from the anæsthetic, but in five hours developed shortness of breath and soon died. There was in this case some question as to whether there was pulmonary or cardiac embolism, as no post-mortem examination was made.

DR. LE CONTE added that cases of pulmonary embolus might be divided into two groups, the septic and the non-septic; and these again into large emboli and small ones. In some cases where the embolus is aseptic and small, one of the smaller branches of the pulmonary artery may alone be occluded, and the patient may present symptoms not dissimilar to syncope. There will be a rapid, feeble pulse, shallow respiration, sweating, and usually pain in the lung. Such cases almost invariably recover, the attending surgeon perhaps having entirely overlooked the fact that embolus has taken place. In other instances the non-septic thrombus may be so large that the entire pulmonary artery is occluded, and death is almost instantaneous.

In the septic group, if the primary thrombus is small and only a portion of the artery is occluded, the patient recovers from the immediate shock, to develop later a septic pneumonia or gangrene of the lung. In such cases, then, the patient does not die as a result of the occlusion of the vessel, but rather on account of the septic material which has been deposited in the lung.

#### COMPLETE INTESTINAL OBSTRUCTION FROM A BAND AND VOLVULUS OF THE ILEUM.

DR. ROBERT G. LE CONTE reported the case of a man, aged forty years, who was admitted to the Pennsylvania Hospital, July 18, 1904, with a history of four attacks of appendicitis since June, 1903, culminating in an attack in April, 1904, when a large abscess in the region of the appendix was opened, but without the removal of the appendix.